

REMARKS/ARGUMENTS

Reconsideration of the pending application is respectfully requested.

I. Status of Application

Claim 1 has been amended to change the transitional term “comprises” to “consisting essentially of.” Claims 2-9 have also been amended to correct antecedent basis for the term “process”. New dependent claim 10 (depending from claim 1) has been added and is directed to a process where ion imprinted polymer particles are used for the separation of erbium ion from dilute aqueous solution. Support for new claim 10 is found within the specification at page 6, lines 8-11; page 7, lines 5-19; and in Figures 4-6.

No new matter is added by way of these amendments.

II. Anticipation (35 U.S.C. §102(e))

The Examiner has rejected claims 1-9 as anticipated under 35 U.S.C. §102(e) by U.S. Patent Application Publication No. 2003/0129092 (‘092 publication, to Murray). According to the Examiner, the ‘092 publication discloses polymers for measuring and detecting analytes where the polymers possess a lanthanide ion (such as erbium) and are imprinted to bind chemical functionality. Also disclosed are methods for producing these polymers.

This rejection is respectfully traversed, and reconsideration is respectfully requested.

Applicants respectfully submit that the ‘092 publication does not teach methods of lanthanide ion extraction from solution using lanthanide-free polymers as claimed in the present invention. Rather, the polymerization of the polymers of the ‘092 publication require the presence of a lanthanide ion and an analyte. In the ‘092 publication, the lanthanide ion is bound to the polymer, and the analyte is bound to the ion. The combination of the lanthanide ion and the analyte creates a distinct imprint cavity on the polymer. However, the analyte is not polymerized to the polymer. See, for example, Examples 1 and 3 of the ‘092 publication where pinacolylmethylphosphonate (PMP) is used for imprinting and is subsequently removed from the polymers.

In the presently claimed invention, the polymerization of the polymers requires the presence of a bound lanthanide ion. Upon removal of the ion, the polymer of the claimed invention is left with a cavity distinct from the cavity of the polymers of the '092 publication. The cavity of the presently claimed invention only accommodates a lanthanide ion whereas the cavity of the '092 publication accommodates a lanthanide ion and an analyte.

Furthermore, claim 1 requires the formation of a ternary complex, which includes 5,7-dichloroquinoline-8-ol (DCQ), for synthesis of the polymers of the present invention. DCQ is a nonvinyl chelating ligand used to complex erbium. The '092 publication teaches the use of vinyl substituted chelates (*see*, for example, paragraph 0032 on page 3 of the publication), but does not disclose ternary complexes or DCQ. Additionally, amended claim 1 does not read on methods of producing polymers beyond those listed within the claims (*i.e.* those with the distinct imprint cavity of the present invention or those with 5,7-dichloroquinoline-8-ol). Therefore, the claims of the present invention are not anticipated by the processes or polymers disclosed in the '092 publication.

Withdrawal of this rejection is respectfully requested.

Applicants have also currently added new claim 10 to demonstrate the use of the ion imprinted polymer particles for the separation of erbium ion from dilute aqueous solution. As indicated above, support for this claim is found within the specification at page 6, lines 8-11; page 7, lines 5-19; and in the Figures 4-6.

III. Conclusion

In view of the above amendment, applicants believe the pending application is in condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

If there are any other issues remaining which the Examiner believes could be resolved through either a Supplemental Response or an Examiner's Amendment, the Examiner is respectfully requested to contact the undersigned at the telephone number indicated below.

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Respectfully submitted,

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